

# EnviroProjects, LLC

## Technical Memorandum

Date: June 25, 2013

To: Eric Arohson, Rialto Capital

From: Aaron M. Keel, EnviroProjects

Re: Aris T Allen Boulevard property, Wetlands and Waters Delineation Verification  
EP#: 20130099

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The following items summarize key points of the Aris T Allen Boulevard property, Wetlands and Waters Delineation Verification.

- On June 1, 2013, EnviroProjects conducted a stream and wetland verification study of the Aris T Allen Boulevard property. A wetland delineation of the subject property was conducted by Bowman Engineering in 2005. A copy of the previous 2005 Wetland Mapping is included in Figure 1.
- Currently the property owner is considering a large multi-family residential development at the site, and is not proposing to impact wetlands, streams or buffers, per the previous 2005 delineation.
- In 2010 the federal standards for wetland and Waters of the US delineation changed. Also more than 5 years have passed since the last wetland delineation study. The previous wetland delineation is no longer valid. EnviroProjects was tasked to verify if the previous wetland delineation accurately defines the limits of jurisdictional waters, including wetlands.
- The study area is a subset of the entire property, identified as the development envelope. The study area limits are defined on the attached Figure 1: Wetland Study Map and Figure 2, Study Area aerial Photograph.
- A wetland presence/absence determination was conducted according to the 1987 US Army Corps of Engineers Wetland Delineation Manual and the Atlantic and Gulf Coastal Plain Region Regional Supplement, 2010.
- Regional soils mapping of the study area indicates that some of the study site contains mapped "Partially Hydric" soil series. However, field investigation of the Study Area finds the only truly hydric soils at the study area occur within the bed and banks of the existing stream. Figure 3: Soils Map shows the mapped soil series at the study area.
- The National Wetlands Inventory (NWI) map (Figure 4) shows no mapped wetlands within the project study area.
- The project occurs within the headwaters of Church Creek, draining to the South River, Use Class I watershed. Hydrologic Unit Code (HUC) is 020600040302.
- The mapped stream within the study area is an ephemeral Waters of the US headwaters, matching the previous wetland delineation study. Nontidal

# EnviroProjects

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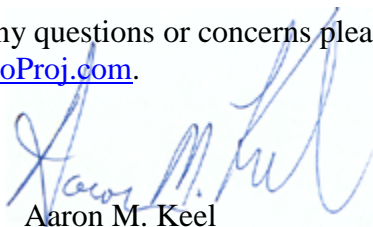
wetlands were not found to be present within the study area.

- Two data forms were completed on the subject property in areas where new wetlands might be discovered. Neither data proved the existence of wetlands. The Upland Data Point A and B are shown on Figure 1 and datasheets are attached.

## **FINDINGS**

- On June 1, 2013, EnviroProjects conducted a wetland presence/absence inspection of the Aris T Allen Boulevard property in accordance with the principles of the 1987 US Army Corps of Engineers Wetland Delineation Manual and the Atlantic and Gulf Coastal Plain Region Regional Supplement to verify the accuracy of previous wetland delineation studies by others conducted in 2005. A formal and complete Wetland Delineation Study of the property was not conducted by EnviroProjects.
- The previous wetland delineation study was conducted in 2005 and is no longer valid. A new wetland study, using current standards, would be required to obtain State/Federal agency concurrence with the wetland delineation.
- The June 2013 EnviroProjects inspection finds that the existing waters/wetlands within the study area are accurately delineated. No new wetlands were observed within the project area.
- The current proposed development avoids impacts to wetlands and streams and the stream buffer. Thus, no further work to define jurisdictional waters of the US within the project area is required.
- However, if official State/Federal wetland boundary verification is required; and/or the project design changes and impacts streams or jurisdictional wetland/stream buffers; then a new complete wetland delineation study will be required.
- If a new wetland delineation study were conducted today, EnviroProjects does not expect the limits of jurisdictional waters, including wetlands, will change significantly.

If there are any questions or concerns please contact me at the below data or [akeel@EnviroProj.com](mailto:akeel@EnviroProj.com).

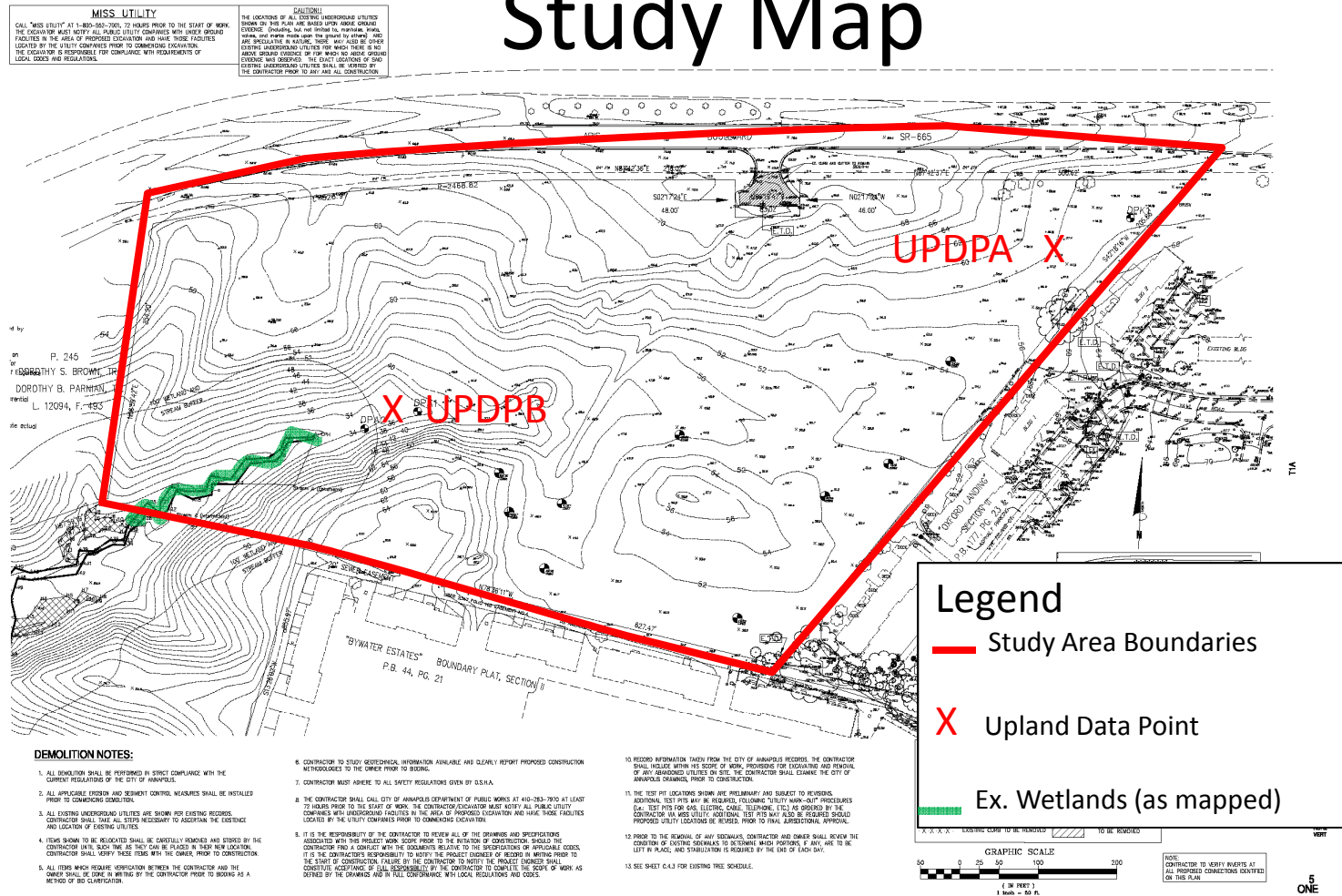


Aaron M. Keel  
EnviroProjects

Attachments: Figure 1: Wetland Mapping; Figure 2: Study Area Aerial Photograph; Figure 3: Soils Map; Figure 4: National Wetlands Inventory (NWI) Map; Upland Data Forms

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# Aris T Allen – Wetland Verification Study Map



EnviroProjects, LLC

Project-based Environmental Compliance Strategies

June 2013



Base map is a reproduction of the Google Earth, aerial photography, Not to Scale

**FIGURE 2 – Project Study Area Map, Aris T Allen Boulevard Property**  
Aris T Allen Boulevard, City of Annapolis, Maryland



**EnviroProjects, LLC**

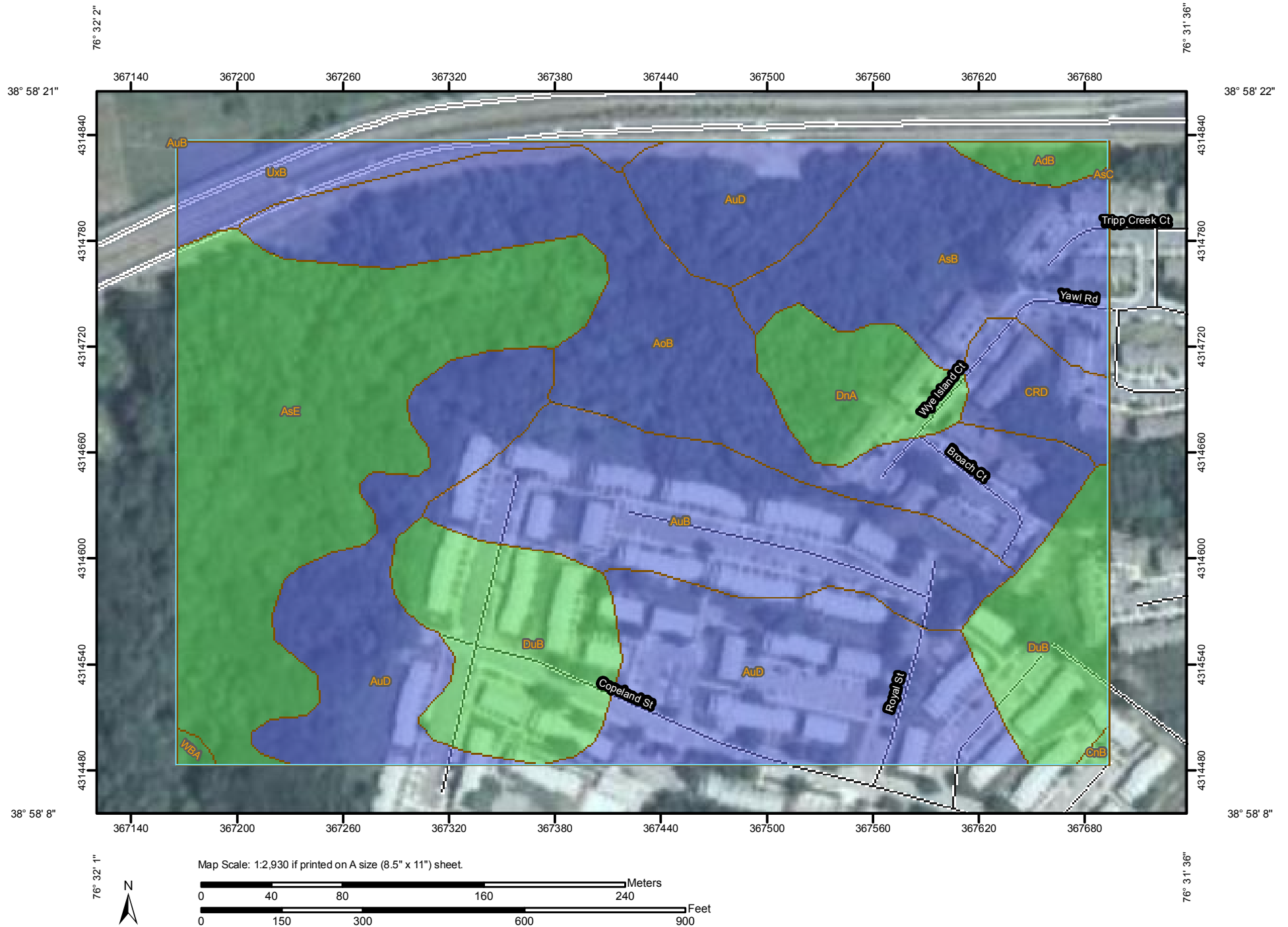
93 Eastway, Severna Park, MD 21146

[www.EnviroProj.com](http://www.EnviroProj.com)

EP No.20130099



# Hydric Rating by Map Unit—Anne Arundel County, Maryland (Figure 3: Hydric Soils -Aris T Allen)



Hydric Rating by Map Unit--Anne Arundel County, Maryland  
(Figure 3: Hydric Soils -Aris T Allen)

## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)


### Soils


 Soil Map Units


### Soil Ratings

 All Hydric

 Partially Hydric

 Not Hydric


 Unknown Hydric

 Not rated or not available

### Political Features

 Cities

### Water Features

 Streams and Canals


### Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

## MAP INFORMATION

Map Scale: 1:2,930 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>

Coordinate System: UTM Zone 18N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Anne Arundel County, Maryland

Survey Area Data: Version 10, Jan 27, 2011

Date(s) aerial images were photographed: 6/21/2005

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Hydric Rating by Map Unit

Hydric Rating by Map Unit— Summary by Map Unit — Anne Arundel County, Maryland (MD003)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AdB	Adelphia-Holmdel complex, 2 to 5 percent slopes	Partially Hydric	0.4	0.9%
AoB	Annapolis loamy sand, 2 to 5 percent slopes	Not Hydric	6.9	15.1%
AsB	Annapolis fine sandy loam, 2 to 5 percent slopes	Not Hydric	4.4	9.4%
AsC	Annapolis fine sandy loam, 5 to 10 percent slopes	Not Hydric	0.0	0.0%
AsE	Annapolis fine sandy loam, 15 to 25 percent slopes	Partially Hydric	8.6	18.7%
AuB	Annapolis-Urban land complex, 0 to 5 percent slopes	Not Hydric	5.1	11.1%
AuD	Annapolis-Urban land complex, 5 to 15 percent slopes	Not Hydric	10.8	23.5%
CnB	Colemantown-Urban land complex, 0 to 5 percent slopes	Partially Hydric	0.1	0.1%
CRD	Collington and Annapolis soils, 10 to 15 percent slopes	Not Hydric	1.1	2.4%
DnA	Donlonton fine sandy loam, 0 to 2 percent slopes	Partially Hydric	1.7	3.8%
DuB	Donlonton-Urban land complex, 0 to 5 percent slopes	Partially Hydric	5.3	11.6%
UxB	Udorthents, loamy, sulfidic substratum, 0 to 5 percent slopes	Not Hydric	1.5	3.2%
WBA	Widewater and Issue soils, 0 to 2 percent slopes, frequently flooded	Partially Hydric	0.1	0.2%
<b>Totals for Area of Interest</b>			<b>46.1</b>	<b>100.0%</b>

## Rating Options

*Aggregation Method:* Absence/Presence

*Tie-break Rule:* Lower

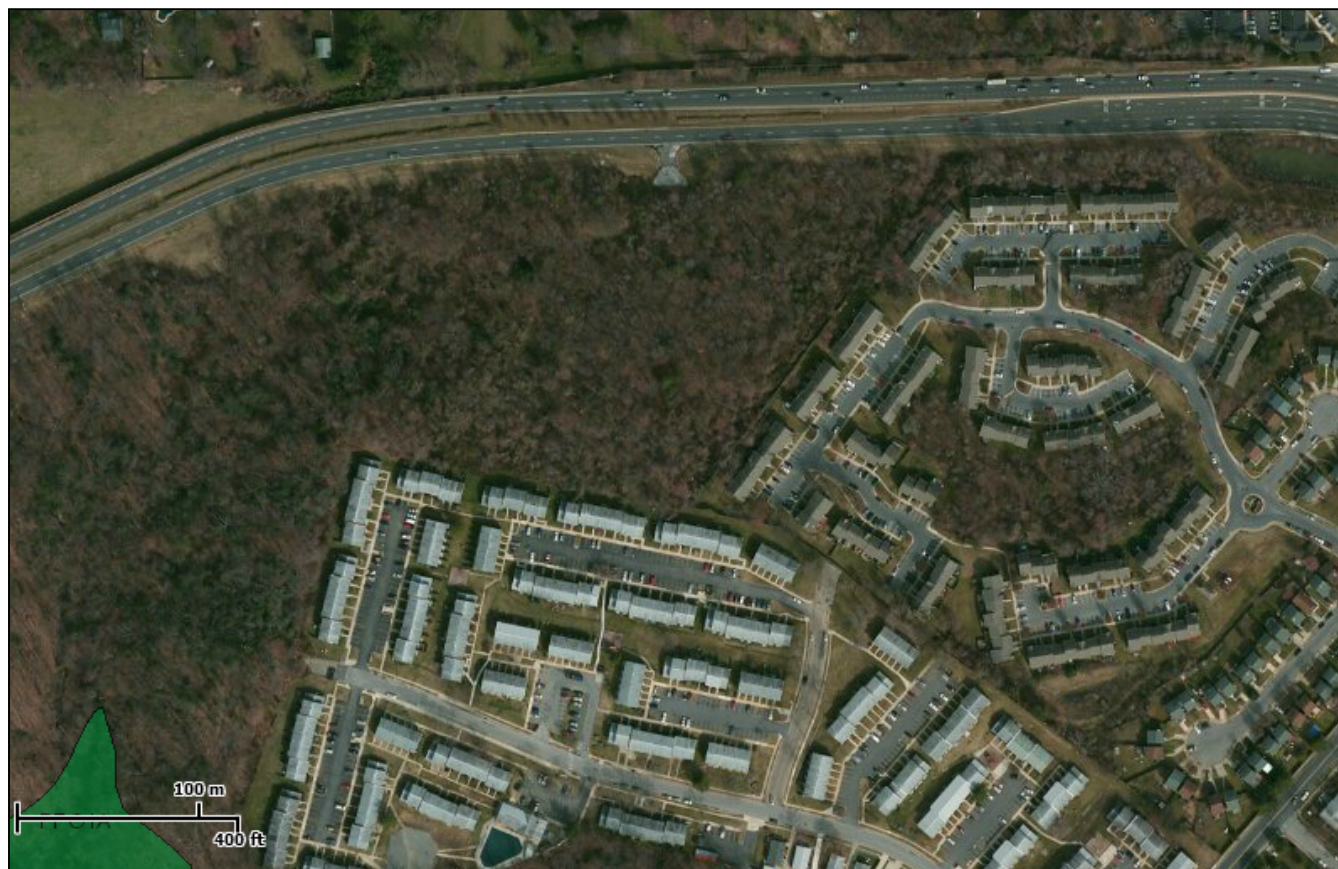


U.S. Fish and Wildlife Service

## National Wetlands Inventory

Figure 4: NWI MAP

Jun 4, 2013



### Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

### User Remarks:

Aris T Allen Boulevard Proeprty



## WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

EnviroProjects, LLC Wetland E-Form ©

Project/Site: Aris T. Allen City/County: AA Sampling Date: 06/01/13  
 Applicant/Owner: Rialto Capital State: MD Sampling Point: UPDPA  
 Investigator: EnviroProjects, LLC Keel/Darcy, EP Section, Township, Range: City of Annapolis  
 Landform (hillslope, terrace, etc): flat area in NE corner Local relief (concave, convex, none): none Slope (%): 2-5%  
 Subregion (LRR or MLRA): MLRA 149-A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Adelphia-Holmdel Complex Sym: AdB NWI Classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If No, explain in Remarks.)  
 Are vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks)

## SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects and important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is this Sampling Point Within a Wetland?
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Hydric Soils Present?	Yes _____	No <u>X</u>	
Remarks: <div style="text-align: center; font-size: 1.2em; font-weight: bold;">UPLAND DATA POINT</div>			

## HYDROLOGY

## Wetland Hydrology Indicators:

## Primary Indicators (minimum of one is required, check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Stained Leaves (B9)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Iron deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)

## Secondary Indicators (minimum of two required)

## Wetland Hydrology Indicators

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Shallow Aquitard
<input type="checkbox"/> FAC-Neutral Test (D5)

## Field Observation

Surface Water Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No \_\_\_\_\_ Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Water Table Not observed - Sandy soil.

## Remarks:

UPLAND DATA POINT A

## SOIL

Project/Site: Aris T. Allen

EnviroProjects, LLC

Sampling Point: UPDPA

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Colors		Redox Features				Texture	Remarks
	(Color Moist)	%	(Color Moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 3/2						SL	Surface and Organic layer
3-16	10YR 5/6	75	10YR5/8	5	C	M	SL	uniform matrix

<sup>1</sup>Type: C = Concentration, D=Depletion, RM=Reduced Matrix CS= Covered or Coated Sand Grains<sup>2</sup>Location: PL=Pore Lining, M=Matrix

## Hydric Soil Indicators

Indicators for Problematic Hydric Soils<sup>3</sup>:

_____ Histosol (A1)	_____ Polyvalue Below Surface (S8) (LRR S, T, U)	_____ 1cm Muck (A9) (LRR O)
_____ Histic Epipedon (A2)	_____ Thin Dark Surface (S9) (LRR S, T, U)	_____ 2 cm Muck (A10) (LRR S)
_____ Black Histic (A3)	_____ Loamy Mucky Mineral (F1) (LRR O)	_____ Reduced Vertic (F18) (outside MLRA 150A,B)
_____ Hydrogen Sulfide (A4)	_____ Loamy Gleyed Matrix (F2)	_____ Piedmont Floodplain Soils (F19) (LRR P, S, T)
_____ Stratified layers	_____ * <u>Depleted Matrix (F3)</u>	_____ Anomalous Bright Loamy Soils (F20)
_____ Organic Bodies (A6) (LRR P, T, U)	_____ * <u>Redox Dark Surface (F6)</u>	_____ (MLRA 153B)
_____ 5 cm Mucky Mineral (A7) (LRR U)	_____ Depleted Dark Surface (F7)	_____ Red Parent Material (TF2)
_____ Muck Presence (A8) (LRR U)	_____ Redox Depressions (F8)	_____ Other (explain in Remarks)
_____ 1cm Muck (A9) (LRR P, T)	_____ Marl (F10) (LRR U)	
_____ * <u>Depleted Below Dark Surface (A11)</u>	_____ Depleted Ochric (F11) (MLRA 151)	
_____ Thick Dark Surface (A12)	_____ Iron-Manganese Masses (F12) (LRR O, P, T)	<sup>3</sup> Indicators of hydrophytic vegetation and
_____ Coast Prairie Redox (A16) (MLRA 150A)	_____ Umbric Surface (F13) (LRR P, T, U)	wetland hydrology must be present.
_____ Sandy Mucky Mineral (S1) (LRR O, S)	_____ Delta Ochric (F17) (MLRA 151)	
_____ Sandy Gleyed Matrix (S4)	_____ Reduced Vertic (F18) (MLRA 150A, 150B)	
_____ * <u>Sandy Redox (S5)</u>	_____ Piedmont Floodplain Soils (F19) (MLRA 149A)	
_____ Stripped Matrix (S6)	_____ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
_____ Dark Surface (S7) (LRR P, S, T, U)		

## Restrictive Layer (if observed):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No   X  

## Remarks:

No Hydric Soil observed within within upper soil profile.



Photograph of Upland Data Point

## Vegetation

Project/Site: Aris T. Allen

EnviroProjects, LLC

Sampling Point: UPDPA

Tree Stratum	(Plot sizes: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1	<u>Acer Rubrum</u>	40%	Y	Fac
	<u>Red Maple</u>			
2				
3				
4				
5				
6				
7				
Total Cover: 40%				
Sapling Stratum	(_____)			
1	<u>Acer Rubrum</u>	20%	Y	Fac
	<u>Red Maple</u>			
2				
3				
4				
5				
6				
7				
Total Cover: 20%				
Shrub Stratum	(_____)			
1	<u>N/A</u>			
2				
3				
4				
5				
6				
7				
Total Cover: 0%				
Herb Stratum	(_____)			
1	<u>Fragaria virginiana</u>	5%	N	FacU
	<u>Virginia strawberry</u>			
2	<u>Rosa multiflora</u>	40%	Y	FacU
	<u>Multiflora Rose</u>			
3	<u>Smilax rotundifolia</u>	15%	N	FacU
	<u>Greenbrier</u>			
4				
5				
6				
7				
Total Cover: 60%				
Woody Vine Stratum	(_____)			
1	<u>Toxicodendron radicans</u>	70%	Y	Fac
	<u>Poison Ivy</u>			
2				
3				
4				
5				
Total Cover: 70%				

## Dominance Test worksheet:

Number of Dominant Species  
That are OBL, FACW, or FAC: 3 (A)Total Number of Dominant  
Species Across All Strata 4 (B)Percent of Dominant Species  
That Are OBL, FACW or FAC 75% (A/B)

## Prevalence Index Worksheet

Total % Cover of		Multiply by	
OBL species	<u>0</u>	x	<u>1</u> = <u>0</u>
FACW species	<u>0</u>	x	<u>2</u> = <u>0</u>
FAC species	<u>130</u>	x	<u>3</u> = <u>390</u>
FACU Species	<u>60</u>	x	<u>4</u> = <u>240</u>
UPL Species	<u>0</u>	x	<u>5</u> = <u>0</u>

Column Total 190 (A) 630 (B)Prevalence Index = B/A = 3.316

## Hydrophytic Vegetation Indicators:

X \_\_\_\_\_ Dominance Test is > 50%  
\_\_\_\_\_ Prevalence Index is <= 3.0<sup>1</sup>  
\_\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present

Remarks: (If observed, list morphological adaptations below).

Meets hydrophytic vegetation criterion, per Regional Supplement

Hydrophytic  
Vegetation  
Present?Yes X No \_\_\_\_\_

## WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

EnviroProjects, LLC Wetland E-Form ©

Project/Site: Aris T. Allen City/County: AA Sampling Date: 06/01/13  
 Applicant/Owner: Rialto Capital State: MD Sampling Point: UPDPB  
 Investigator: EnviroProjects, LLC Section, Township, Range: City of Annapolis  
 Landform (hillslope, terrace, etc): valley upslope of wetland Local relief (concave, convex, none): concave Slope (%): 2-5%  
 Subregion (LRR or MLRA): MLRA 149-A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Annapolis loamy sand Sym: AoB NWI Classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If No, explain in Remarks.)  
 Are vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks)

## SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects and important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No <u>X</u>	Is this Sampling Point Within a Wetland?
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Hydric Soils Present?	Yes _____ No <u>X</u>	
Remarks: <div style="text-align: center; font-size: 1.2em; font-weight: bold;">UPLAND DATA POINT</div>		

## HYDROLOGY

## Wetland Hydrology Indicators:

## Primary Indicators (minimum of one is required, check all that apply)

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<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Iron deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)

## Secondary Indicators (minimum of two required)

## Wetland Hydrology Indicators

<input type="checkbox"/> Surface Soil Cracks (B6)
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<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Shallow Aquitard
<input type="checkbox"/> FAC-Neutral Test (D5)

## Field Observation

Surface Water Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No \_\_\_\_\_ Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Water Table Not observed - Sandy soil.

## Remarks:

UPLAND DATA POINT B



## SOIL

Project/Site: Aris T. Allen

EnviroProjects, LLC

Sampling Point: UPDPB

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Colors		Redox Features				Texture	Remarks
	(Color Moist)	%	(Color Moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10YR 4/4	85	10YR 4/6	5	C	M	SL	Uniform Bottomland Alluvium

<sup>1</sup>Type: C = Concentration, D=Depletion, RM=Reduced Matrix CS= Covered or Coated Sand Grains<sup>2</sup>Location: PL=Pore Lining, M=Matrix

## Hydric Soil Indicators

Indicators for Problematic Hydric Soils<sup>3</sup>:

_____ Histosol (A1)	_____ Polyvalue Below Surface (S8) (LRR S, T, U)	_____ 1cm Muck (A9) (LRR O)
_____ Histic Epipedon (A2)	_____ Thin Dark Surface (S9) (LRR S, T, U)	_____ 2 cm Muck (A10) (LRR S)
_____ Black Histic (A3)	_____ Loamy Mucky Mineral (F1) (LRR O)	_____ Reduced Vertic (F18) (outside MLRA 150A,B)
_____ Hydrogen Sulfide (A4)	_____ Loamy Gleyed Matrix (F2)	_____ Piedmont Floodplain Soils (F19) (LRR P, S, T)
_____ Stratified layers	_____ * <b>Depleted Matrix (F3)</b>	_____ Anomalous Bright Loamy Soils (F20)
_____ Organic Bodies (A6) (LRR P, T, U)	_____ * <b>Redox Dark Surface (F6)</b>	_____ (MLRA 153B)
_____ 5 cm Mucky Mineral (A7) (LRR U)	_____ Depleted Dark Surface (F7)	_____ Red Parent Material (TF2)
_____ Muck Presence (A8) (LRR U)	_____ Redox Depressions (F8)	_____ Other (explain in Remarks)
_____ 1cm Muck (A9) (LRR P, T)	_____ Marl (F10) (LRR U)	
_____ * <b>Depleted Below Dark Surface (A11)</b>	_____ Depleted Ochric (F11) (MLRA 151)	
_____ Thick Dark Surface (A12)	_____ Iron-Manganese Masses (F12) (LRR O, P, T)	
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_____ Sandy Gleyed Matrix (S4)	_____ Reduced Vertic (F18) (MLRA 150A, 150B)	
_____ * <b>Sandy Redox (S5)</b>	_____ Piedmont Floodplain Soils (F19) (MLRA 149A)	
_____ Stripped Matrix (S6)	_____ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
_____ Dark Surface (S7) (LRR P, S, T, U)		

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present.

## Restrictive Layer (if observed):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No \_\_\_\_\_ x \_\_\_\_\_

## Remarks:



Photo of Upland Data Point

## Vegetation

Project/Site: Aris T. Allen

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Sampling Point: UPDPB

Tree Stratum (Plot sizes: _____)		Absolute % Cover	Dominant Species?	Indicator Status
1	<i>Acer Rubrum</i> Red Maple	5%	N	Fac
2	<i>Ilex Opaca</i> American Holly	10%	Y	Fac
3	<i>Liriodendron tulipifera</i> Tulip Poplar (Yellow Poplar)	10%	Y	FacU
4				
5				
6				
7				
Total Cover: 25%				
Sapling Stratum (_____)				
1	N/A			
2				
3				
4				
5				
6				
7				
Total Cover: 0%				
Shrub Stratum (_____)				
1	<i>Ligustrum sp.</i> Privet	15%	Y	Fac
2				
3				
4				
5				
6				
7				
Total Cover: 15%				
Herb Stratum (_____)				
1	<i>Impatiens Capensis</i> Spotted Touch-Me-Not	3%	N	FacW
2	<i>Carex sp.</i> sedge	3%	N	Fac
3	<i>Phytolacca americana</i> American pokeweed	5%	N	FacU
4	<i>Parthenocissus quinquefolia</i> Virginia Creeper	15%	Y	FacU
5				
6				
7				
Total Cover: 26%				
Woody Vine Stratum (_____)				
1	<i>Hedera helix</i> English Ivy	5%	N	NI
2	<i>Toxicodendron radicans</i> Poison Ivy	5%	N	Fac
3				
4				
5				
Total Cover: 10%				

## Dominance Test worksheet:

Number of Dominant Species  
That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant  
Species Across All Strata 4 (B)

Percent of Dominant Species  
That Are OBL, FACW or FAC 50% (A/B)

## Prevalence Index Worksheet

Total % Cover of		Multiply by	
OBL species	<u>0</u>	x	<u>1</u> = <u>0</u>
FACW species	<u>3</u>	x	<u>2</u> = <u>6</u>
FAC species	<u>38</u>	x	<u>3</u> = <u>114</u>
FACU Species	<u>30</u>	x	<u>4</u> = <u>120</u>
UPL Species	<u>0</u>	x	<u>5</u> = <u>0</u>

Column Total 71 (A) 240 (B)

Prevalence Index = B/A = 3.38

## Hydrophytic Vegetation Indicators:

\_\_\_\_\_ Dominance Test is > 50%  
 \_\_\_\_\_ Prevalence Index is <= 3.0<sup>1</sup>  
 \_\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present

Remarks: (If observed, list morphological adaptations below).

Hydrophytic vegetation parameters NOT satisfied

Hydrophytic  
Vegetation  
Present?

Yes      No X